WTCI-477-P
45

COPY

EMERY ROTH & SONS
850 THIRD AVENUE
NEW YORK, N. Y. 10022

January 25, 1968

Mr. Malcolm P. [illegible], Chief
Planning & Construction Division
The World Trade Center
The Port of New York Authority
111 Eighth Avenue
New York New York

Re: The World Trade Center
Building Department Review

Dear Mal:

We have reviewed the comments submitted by Commissioner Ferro with regard to conformance of the World Trade Center with the Building Code. The Tower plans accord to the Proposed Building Code with respect to all five points noted.

1. The Proposed Code provides for a stair capacity of 60 persons per [illegible] of width. Each Tower floor has two [illegible] stairs (two [illegible]) and one 4'-6" stair [illegible] half units) for a total of 6½ units. [illegible] therefore [illegible] capacity of 390 persons per floor. The [illegible] is [illegible] 35,5[illegible] net on the 106th [illegible]. At [illegible] per hundred square feet, there will be 365 persons per floor; well within the permissible [illegible].

2. [illegible] of [illegible] 340 [illegible]. The [illegible] of [illegible] in occupancy Group Classification E (business).

3. No fire tower is required under the Proposed Code.

COPY

EMERY ROTH & SONS
250 THIRD AVENUE
NEW YORK, N. Y. 10022

January 25, 1968

4. All cellar stairs are completely enclosed in two hour fire-rated masonry construction as required by the Proposed Code. Each cellar stair is contained in a continuous enclosure leading directly to the street, the street floor lobby or The Concourse floor leading to the street. The Concourse floor is considered as an underground street in accordance with the interpretation made by the Port Authority.

5. The cellar areas that are to be used for tenant storage are less than ten percent of the total area of the building. In accordance with the Proposed Code, therefore, they are treated the same as office building with regard to egress requirements.

The garage spaces are limited to storage of cars with a maximum tank capacity of 26 gallons. There will be no servicing of cars or dispensing of fuel. All garage areas will be sprinklered. The Proposed Code limits the maximum distance to stairs for this type of garage to 150 feet without distinction to garages above or below grade. The World Trade Center is in conformance with these requirements.

Cordially,

EMERY ROTH & SONS

BY _____
JOSEPH H. SOLOMON

JHS:mae

cc: H. Tessler/PANYA ✓

WTCI-477-P

COPY

EMERY ROTH & SONS
850 THIRD AVENUE
NEW YORK, N. Y. 10022

45

477-P

January 23, 1968

Mr. Malcolm P. Ferro, Chief
Planning & Construction Division
The World Trade Center
The Port of New York Authority
111 Eighth Avenue
New York New York

Re: The World Trade Center
Building Department Review

Dear Mal:

We have reviewed the comments submitted by Commissioner Ferro with regard to conformance of the World Trade Center with the Building Code. The Tower plans adhere to the Proposed Building Code with respect to all five points noted.

1. The Proposed Code provides for a stair capacity of 60 persons per 22 inch unit of width. Each Tower floor has two 3'8" stairs (two units each) and one 4'-8" stair (two and one half units) for a total of 6½ units. The stairs therefore have a capacity of 390 persons per floor. The largest floor area is about 36,500 square feet net on the 106th floor. At one person per hundred square feet, there will be 365 persons per floor; well within the permissible maximum.

2. [illegible] of [illegible]. The Proposed Code [illegible] of [illegible], in Occupancy Group Classification E (business).

3. No fire tower is required under the Proposed Code.

COPY

EMERY ROTH & SONS
393 THIRD AVENUE
NEW YORK, N. Y. 10022

January 25, 1968

4. All cellar stairs are completely enclosed in two hour fire-rated masonry construction as required by the Proposed Code. Each cellar stair is contained in a continuous enclosure leading directly to the street, the street floor lobby or The Concourse floor leading to the street. The Concourse floor is considered as an underground street in accordance with the interpretation made by the Port Authority.

5. The cellar areas that are to be used for tenant storage are less than ten percent of the total area of the building. In accordance with the Proposed Code, therefore, they are treated the same as office building with regard to egress requirements.

The garage spaces are limited to storage of cars with a maximum tank capacity of 20 gallons. There will be no servicing of cars or dispensing of fuel. All garage areas will be sprinklered. The Proposed Code limits the maximum distance to stairs for this type of garage to 150 feet without distinction to garages above or below grade. The World Trade Center is in conformance with these requirements.

Cordially,

EMERY ROTH & SONS

BY _____
JOSEPH H. SOLOMON

JHS:mec

cc: H. Tessler/PUYA ✓

WTCI-477-P 30

THE PORT AUTHORITY OF NY & NJ

The World Trade Center
One World Trade Center
New York, New York 10048

Rich Wegel / Joe Nap
Please advise staff
Thanks
Jon

RECEIVED
NOV 08 1989
WT & ED
WTC PLANNING

STAFF

November 7, 1989

Mr. Frank Greco
Lighting Group
1071 Avenue of the Americas
New York, New York 10018

Dear Mr. Greco:

Please be advised that light fixtures with acrylic lenses are acceptable for use at the World Trade Center provided the lens has a BSA number from the City of New York.

I hope this clarifies the Port Authority's policy in this matter and if I can be of any further help, please don't hesitate to call.

Sincerely,

Eugene J Daly

Eugene Daly
Project Administrator
Planning & Design Division
World Trade & Economic Development Department

GD/lad

bcc: P. Marchese, L. Menno, A. Preschle, C. Semah, G. Wenger, A. Vaccaro

Bathgate Industrial Park
Bronx, NY
Brooklyn Piers Development
Brooklyn, NY
Industrial Park at Elizabeth
Elizabeth, NJ
Essex County Resource Recovery
Newark, NJ
Hoboken Waterfront Development
Hoboken, NJ
Hunters Point Waterfront Development
Queens, NY
Legal and Communications Center
Newark, NJ
Newark South Ward Industrial Park
Newark, NJ
The Teleport
Staten Island, NY
The World Trade Center
New York, NY
Industrial Park at Yonkers
Yonkers, NY
Trade Development Offices
London, England
Tokyo, Japan
Zurich, Switzerland
The World Trade Institute
at The World Trade Center
XPORT —
The Port Authority
Trading Company
at The World
Trade Center
Writer's direct telephone _____ Fax # _____

WICI - 477 - P

31

RECEIVED

SEP 6 1989

SEP 01 1989

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

WT & ED

WT HEMORANDUM

AUG 28 1989

RECEIVED

AUG 29 1989

PORT AUTHORITY OF N.Y. & N.J.
WORLD TRADE ECONOMIC DEV.
DEP. DIR. PHYS. FAC.

TO: FILE → ALL PLANNING STAFF
FROM: R. H. Monti
DATE: August 22, 1989
SUBJECT: NEW YORK CITY BUILDING CODE ADMINISTRATION

CC: P. Falvey, E. Fasullo, P. LaRocco, L. Liburdi, D. Plavin, E. Ramabhushanam, J. Vanacore

On this date, Charlie Smith, Building Commissioner of the City of New York happened to call me on an unrelated item and I took the opportunity to ask him how the New York City Building Department handles the review of drawings, etc. for the construction of new buildings in New York City. Mr. Smith told me the following which is the procedure they are presently following in the City. All builders and/or their architects/engineers must submit:

- Drawings and specifications for building permits. The City does a full check of the zoning regulations and pile data must be submitted before any work is started on the site.

- The City then issues an excavation permit which allows the builder to start their excavation and foundation construction. Prior to any other work except foundation work, the Building Department does a complete code review on all aspects of fire safety, people egress and general public safety provisions, etc.

- The Building Department does NOT check any structural drawings or calculations whatsoever and relies to a certain degree on peer reviews of the designing architect/engineer.

- After the building code review (other than structural), the Building Department will issue a permit for start of construction for the superstructure proper.

During the construction process, Building Department inspectors will:

1. Conduct at least one or two inspections for overall safety inspections during the building process.

2. During the superstructure erection phase, they will do at least one inspection of the work.

3. During installation of the exterior wall systems, they will do at least one inspection.

4. Prior to the issuance of the Certificate of Occupancy for the structure, they will do an electrical, plumbing and boiler inspection.

5. They will attend and participate in the final inspection for all other matters. Mr. Smith said that "thus, on a typical job, they will normally inspect the construction site six to seven times."

6. In addition to the above, a special safety team inspects the construction site twice a week for conformance to public safety procedures during the construction process.

7. Mr. Smith also said that the Building Department conducts "periodic elaborate crane inspections."

8. After final inspection, the City will issue a Certificate of Occupancy.

The above is for your information.

R. H. Monti, P.E.
Director of Engineering &
Chief Engineer

WTCI-477-P

1967

February 24

TO: Emery Roth

FRP Malcolm P. Levy

MPL wrote his own to Ted Winters per Florence 2/24/75 per this not required

The following is in reply to your letter of February 18, reference paragraph 2 - demising partitions. At Kennedy International Airport, the Code required four hours construction between the hangar and shop areas, with the fire wall projecting four feet above the ceiling (roof?). Construction drawings prepared by the Port Authority Engineering Department deleted the four-foot, fire-wall projection and, in lieu of this Code requirement, provided for a four-hour rated ceiling, with the fire wall terminating at the ceiling line.

This construction practice was the basis of my letter of December 12, 1967, for demising partitions and ceilings in the World Trade Center as follows:

> To provide a one- or two-hour partition as required to the underside of the ceiling, and where light fixtures are installed in the fire-rated acoustical tile ceiling, the fixtures are required to be covered or boxed-out with mineral wool boards of 5/8-inch thickness (Armstrong Gire Guard) or equal.

The specifications called for such boards to have the same or better fire rating as the ceiling in which they were placed. The mineral wall boards, as per the TAA drawings prepared by ER&S, are required to be placed on all fixtures ten feet on either side of each demising wall.

calls for "Blankets" on fire schedule

WTCI-477-P

December 12, 1967

Mr. Joseph Solomon
Emery Roth & Sons
850 Third Avenue
New York, New York 10022

Subject: The World Trade Center - Suspended Ceilings

Re: Letter - Solomon to Tessler,
dated November 9, 1967

Dear Joe,

We have re-examined your information on the suspended ceiling systems and wish you to proceed as follows:

1. The tenant ceilings will be a one-hour rated system with a combination light fixture and diffuser. This system will be selected from the mock-ups under construction at 30 Church.

2. The tenant partition will terminate at the under side of the ceiling.

3. We will attempt to eliminate placing return air slots within 10' of tenant [illegible] partitions having only supplies within that area. If this is not possible, a [illegible] with a fusible link will be placed over the fixtures within that area and blankets will cover these fixtures.

It is my understanding that the [illegible] for the partition [illegible] to the under side of the [illegible] is to prevent fire from [illegible] from one tenant to another. The 20' separation in the ceiling will perform the same function.

Sincerely,

[illegible]
[illegible]
The World Trade Center

Cc: [illegible], E. [illegible], H. Tessler

[illegible]

WTCI-477-P

EMERY ROTH & SONS
850 THIRD AVENUE. NEW YORK, N.Y. 10022 (212) 753-1733

RICHARD ROTH, Sr., F.A.I.A.
HARRY J. HARMAN, A.I.A.
RICHARD ROTH, Jr., A.I.A., R.I.B.A.
JOSEPH H. SOLOMON, A.I.A.

JULIAN ROTH
ADMINISTRATION
ESTELLE BEAL
CONTROLLER
PHILIP MARTINES
CHIEF DRAFTSMAN

February 18, 1975

Mr. Malcolm P. Levy
General Manager
World Trade Center Operations
Port Authority New York, New Jersey
1 World Trade Center
New York, New York 10047

RE: WORLD TRADE CENTER

Dear Mal:

In accordance with the instructions issued by the Port Authority at the start of the project, construction drawings for the World Trade Center were to conform with requirements of the Building Code of New York City, and any variations therefrom were to be called to the attention of the Port Authority for final decision and authorization. This procedure has been followed in production of the contract drawings and, with the exceptions authorized by the Port Authority noted below, the drawings are in accordance with the new Building Code adopted in December, 1968. The Building Department reviewed the tower drawings in 1968 and made six comments concerning the plans in relation to the old code. Specific answers noting how the drawings conformed to the new code with regard to these points were submitted to the Port Authority on March 21, 1968.

We were instructed by the Port Authority to deviate from code with respect to the following areas:

1. Omission of vents from closed shafts. Noted to the Port Authority by letter dated April 20, 1967.

2. Demising partitions to stop at suspended ceiling or bottom of truss instead of running from slab to slab. Noted to the Port Authority by letters dated November 9, 1967 and June 6, 1969 with response on December 12, 1967. Prior instruction on procedure from Port Authority dated January 26, 1966.

SENIOR ASSOCIATES: VICTOR GORLACH · FRED HALDEN · BERNARD KESSLER, A.I.A. · PHILIP ZINN, A.I.A.
ASSOCIATES: DOUGLAS FERNANDEZ · BEN GLADSTEIN · ROBERT S. GOLDBERG, R.A. · ARTHUR O. HECHT · JOHN LEOTTA
JOSEPH LoSCHIAVO, Jr. · JOHN H. MILLER · SAL ORLANDO · VICTOR C. SCALLO, A.I.A. · JOHN J. SECRETI, Jr.

3. Omission of fire protected openings on exterior walls with separation of less than 30 feet. Noted to Port Authority by copy of letter to MYA dated January 26, 1966.

4. Treatment of concourse level as "Underground Street" noted by letter to the Port Authority on April 6, 1971, January 11, 1972 and May 7, 1973.

Fire detection and protection requirements specified for the World Trade Center meet or exceed Building Code requirements prior to the adoption of Local Law #5. Most other office towers in the City of New York meet the minimum code requirements:

A. Telephone system for Fire Department use connecting pump room and gravity tank room with all floors. A six inch gong provided at permanent telephone at pump room, first floor and gravity tank room. Telephone jacks at all other floors protected by break glass boxes.

B. Standpipe signalling device: an eight inch gong located in the pump room and every 10 floors in the elevator shaft; an approved closed circuit strap key enclosed in a sheet metal box at each telephone station for fire department use.

The Building Code permits the use of louvered doors on toilet rooms, janitor and electric closets located in 1 hour rated corridors. There is no size limit specified for the louver, but the Board of Standards and Appeals permits louvers of 2 square feet in 3/4 hour rated doors (which are required in 1 hour rated partitions). Up until about 1968 most office buildings had 1 hour minimum rated enclosures and louvered doors in telephone closets and sleeves or small slots through the floor. Since 1968, about 25 percent still have louvers in the doors. In more recent buildings the floor openings have been slabbed over.

Since corridor construction is required by code to be 1 hour rated, it follows that louvered doors were acceptable in tele-

phone closets. Corridor partitions in the Trade Center Towers, however, were designed to meet 2 hour rated construction at the request of the Port Authority, to forestall any problems with dead end limitations in the new code. It would require investigation of individual floor tenant layouts to determine if the dead end limitation of 50 feet for 1 hour construction has been exceeded.

The original contract drawings, dated 7/31/67 and the Contract Bid Sets dated 12/18/67 and 2/9/68 indicate 2 hour rated enclosures for the telephone closets with louvers in a FPSC, 1-1/2 hour label door. The hollow metal door specification written in 1967 and received by the Port Authority on 10/24/67 called for fusible link dampers on louvers in labeled doors. Letters to the Port Authority dated 8/23/67 and 9/6/67 indicated that variances had been obtained for omission of dampers and requested instruction regarding this advice. The requirement for dampers was deleted from the final draft of the specification reviewed by the P.A. in May, 1968. Re quirement to meet provisions of underwriter's labs, B.S.A. and Building Department was retained, however, for doors with F.P.S.C. and hourly ratings.

Based on Port Authority comments on drawings received 4/17/69 and pursuant to a letter from the Port Authority to Tishman Construction Company dated 4/28/69 instructing that such changes be made, the wall of the telephone closet was changed to 1 hour rated construction on 5/23/69 and the door was changed to F.P. with a 1-1/2 hour rating. Since the telephone closet was no longer a shaft with a 2 hour rated enclosure, all floor openings left for future installation of cables had to be firestopped. This admonition was reiterated in a letter to the Port Authority dated June 25, 1973.

Please inform us if any additional information is desired.

Sincerely,

EMERY ROTH & SONS

Joseph H. Solomon

JOSEPH H. SOLOMON

JHS:am

CC: Mr.R. Monti, Chief Engineer/ PA

c. "Zee" and "Cee" spline runners and splices.

d. Double leaf access splines.

e. Breather splines.

f. Metal edge channel moldings.

g. Tempered steel spacers.

h. Miscellaneous accessories including all necessary clips, clamps, fastenings and similar items.

9. Furnish and install metal head closure (drapery track supports) including additional hangers and carrier channels as required, and all necessary fasteners.

10. Furnish and install metal edge channel moldings, "Tee" and "Zee" sections at edge of ceiling breaks between tenant and public areas, as shown in Contract Drawings.

Contract 115 ASB

11. Coordinate and/or accommodate all ceiling installations in the Contract with the installation by others, or the installation by any other trade which is within or adjacent to the ceiling installation. Provide clear openings in ceilings for anemostats, registers and grilles to be furnished and installed by others. This coordination shall include all comeback time for areas left open, resulting from such accommodation (including temporary elevator operations).

12. Provide clear openings and framing in the ceiling system for light fixtures, installed by the electrical contractor under Contracts WTC-601.00 and WTC-602.00. There shall be no intrusion of suspension system into this space. Size of openings shall be as shown on the Contract Drawings.

13. Furnish and install a fire protection enclosure over each light fixture in the public corridors. Protection enclosure shall be formed of 5/8" thick Armstrong "Fire Guard" panels, in the shape of a truncated pyramid, open at the ends and hinged along the two long edges with a continuous strip of fire resistant tape. Enclosure shall rest on the ceiling construction. Construction shall conform to requirements of the Specifications, of Drawing SK-FP-1 in Appendix A attached hereto, and shall be as approved by the Engineer.

14. The Contractor shall furnish and install 30" x 30" metal pan ceiling panels, (or 12" X 30", as approved by the Engineer) and suspensions therefor at the following locations in the PATH Terminal area, as shown on the Contract Drawings:

a. The public areas of Platforms A, B and C, the public areas and north and south control areas of the mezzanine level (not in-

(c) [illegible], including all necessary clips, clamps, fastenings and similar items. All such items shall be furnished and installed under this Contract as required to insure the proper installation of all the work and to properly provide a rigid, level, ceiling meeting all the specified requirements. Fastenings shall be suitable for the materials and conditions encountered.

E. Handling of Materials

1. Acoustical units, aluminum clad tile, and all component shall be delivered to the construction site in the original packages of the manufacturer. All units shall be protected from damage and units which, in the Authority's opinion, become damaged or otherwise unfit for use during delivery, storage or installation shall be replaced by the Contractor, at his own expense.

a. Packages in which the fire-rated material is delivered to the construction site shall bear the Underwriters Laboratory seal of approval and re-examination service.

33. GENERAL CONDITIONS - ACOUSTICAL AND ALUMINUM CLAD CEILING TILE AND METAL PAN [illegible] Contract #113.00 - Towers A and B

A. Acoustical tile and aluminum clad tile and metal pan ceilings shall be complete in all respects, including all incidental items necessary for a finished job, whether or not such items are indicated on the Contract Drawings, or specifically mentioned in the Specifications. The Work shall include, but not be limited to the following:

B. Include accomodation in all ceilings being furnished and installed under this Contract for light fixtures, anemostats, registers, grilles, access doors and panels and all other items requiring installation in aluminum clad tile and mineral acoustical tile ceilings.

1. Cutting and fitting around all the above-mentioned Work shall be performed under this Contract.

C. Wherever access to lighting fixtures, junction boxes, valves, dampers, anemostats, grilles, or any other apparatus installed in space above ceiling areas is required, the Contractor shall furnish and install approved type acoustical units which will allow such access without disturbing any surrounding units.

D. Where light fixtures are recessed in fire-rated acoustical tile ceilings, they shall be completely covered or boxed out, including the air handling element, using mineral wool boards of minimum 5/8" thickness, Armstrong "Fire Guard" or equal. Such boards shall have the same or better fire-rating as the ceiling in which they are placed.

WTCI - 477 - P 56

Insul. & Safety

Copy to N.M. Roberts
A. Stright
W. Toth.

THE PORT AUTHORITY
OF NEW YORK AND NEW JERSEY

K-52532

1-9 1973

To: W. Connell

From: CARMELO SFERRAZZA (Ext. 7848 – Room 500

Attached change #070.180 shows that walls on 43d flr enclosing escalator are designed as shown, extending from floor to bottom of slab with 1½ hr. rated doors and fire dampers where ductwork crosses walls. Please look or ask for drawings before concluding that there errors.

A contribution to the conservation of our natural resources and the protection of the environment, the paper used for this form has been manufactured from recycled waste paper.

C. Sferrazza

WTCT-477-P

Tishman Realty & Construction Co., Inc.
AS AGENT FOR THE PORT OF NEW YORK AUTHORITY
WORLD TRADE CENTER
666 FIFTH AVENUE, NEW YORK, NEW YORK 10019

Copy to Goz
Schwartzman

July 9, 1969

Mr. Malcolm P. Levy
The Port of New York Authority
111 Eighth Avenue
New York, New York 10011

Re: World Trade Center - New York Building Code - Fire Rating

Dear Mal:

In view of your decision to provide one-hour demising partitions to ceilings and one-hour fire rated ceilings extending 10' either side of demising partitions, we won't pursue any further your request for Building Department interpretation of the fire rating requirements in the new code. (Although we have researched your solution, we have been unable to find any precedent for the fire rated ceiling 10' on either side of the demising partitions beyond the one you described from your construction experience on Port Authority hangers).

It is important that the Star-Circle contract documents clearly delineate your 2-hour fire rated corridor walls and ceilings. I would suggest that Phil Goz carefully check this item.

Goz - please note!

Very truly yours,

James R. Endler
Vice President

JRE/du

WTCI-477 P

8

OPY

EMERY ROTH & SONS
850 THIRD AVENUE
NEW YORK, N. Y. 10022

Schwartz
Comments please

Files
Codes

June 6, 1969

Mr. Malcolm P. Levy, Chief
WTC Planning Division
The World Trade Center
The Port of New York Authority
111 Eighth Avenue
New York, New York

Re: The World Trade Center
New York City Building Code

Dear Mal:

With reference to your letter of May 14, 1969 to Milt Gerstman, we wish to advise as follows:

The references to the new code cited on the first page are correct as indicated. There is, however, one further requirement that was not noted that effectively denies the conclusions drawn in paragraphs a, b, and c on the second page.

Article C26-504.3a regarding fire separations of different tenancies states: "Different tenant apartments, suites, stores, offices, or other spaces that are not separated from each other by fire divisions, shall be separated from each other by fire seperations having at least the fire-resistance rating prescribed in table 5-1, but in no case less than one (1) hour, and shall continue through any concealed spaces of the floor or roof construction above". (We have underlined for clarity).

COPY

EMERY ROTH & SONS
850 THIRD AVENUE
NEW YORK, N. Y. 10022

June 6, 1969

As we have previously informed you, strict adherence to this provision of the Code would require a (1) one hour fire-rated demising wall between tenants extending from floor to underside of slab above. In accordance with your direct instructions by letter dated December 12, 1967, however, we have specified the one hour demising partition terminating at the ceiling and a one hour rated ceiling for tenant spaces.

Please inform us if you wish to modify these requirements.

Cordially,

EMERY ROTH & SONS

BY _____
JOSEPH H. SOLOMON

CC: R. Linn/PNYA
M. Gerstman/Tishman
J. Endler/Tishman

JHS:mac

WTCI-477-P

Tishman Realty & Construction Co. Inc.
AGENTS FOR THE PORT OF NEW YORK AUTHORITY
WORLD TRADE CENTER
666 FIFTH AVENUE NEW YORK NEW YORK 10019

May 28, 1969

Mr. Malcolm P. Levy
The Port of New York Authority
111 Eighth Avenue
New York, New York 10011

Re: World Trade Center - New York Building Code

Dear Mal:

In response to your letter dated May 14, 1969, I have reviewed with both Bill Bracco and Joe Braverman the contents therein. A memorandum is enclosed reflecting our concurrence with your items (a) and (b) on page 2 of your letter. I would suggest that item (c) be referred to your Mechanical Engineer.

Very truly yours,

James R. Endler
Vice President

Encl.
JRE/du

WTCI-477-P

cc: JHK Research Files: WTC & N.Y. Bldg. Cod

TISHMAN RESEARCH CORPORATION

OFFICE CORRESPONDENCE

TO J. R. Endler DATE May 26, 1969

FROM W. M. Bracco

SUBJECT: New York Building Code - WTC - M. Levy's letter of May 14th

Please be guided by the following comments concerning Mal's letter:

1) The WTC towers would be classified, by our interpretation of the code, as occupancy Group E, Business; Construction Group 1, Non-combustible; and Construction Classification 1-B, (since there are no area or height limitations applicable).

   Class 1-B provides:

   a) exterior non-bearing walls with an exterior separation of 30' or more - non-combustible
   b) interior bearing walls and interior bearing partitions - 3 hrs.
   c) enclosure of vertical shafts, exits, passageways, and hoistways - 2 hrs.
   d) columns, girders, trusses, other than roof trusses, and framing supporting one floor - 2 hrs.; supporting more than one floor - 3 hrs.
   e) floor construction including beams - 2 hrs.

The new code provides for a fire index system, which, for business occupancy Group E, is 2 hrs. This means that occupancy groups within the towers having the same or lower fire index than 2 hrs. may be separated from adjoining spaces by construction classified as "fire separation" (meeting fire resistance ratings for non-combustible).

In accordance with the above, and referring to the interpretations on page 2 of Mal's letter, we comment as follows:

continued. . .

To: J. R. [redacted]

From: W. M. Bracco -2- May 26, 1969

Paragraph a. (non-combustible partitions) - we concur.

Paragraph b. (standard non-combustible ceilings) - we concur with the use of a non-combustible ceiling system.

Paragraph c. (air handling lighting fixture) - since this is of a mechanical nature, I suggest this be referred to their mechanical department.

sg
atts.

W M Bracco

WTCI-47 + P

FILE : CODE

FU-5/22

See letter - Endler to Levy 5/28/69
Solomon to " 6/6/69

May 14, 1969

Mr. Milton Gerstman
Tishman Realty & Construction Co., Inc.
30 Church Street - 11th Floor
New York, New York 10007

Re: THE WORLD TRADE CENTER - New York City Building Code

Dear Milt:

A comparison of the recently revised New York City Building Code effective December [illegible], 1968 and The World Trade Center Design Standards, with respect to tenant demising walls, leads to some interesting questions.

The Code seems to indicate that the demising walls between tenant spaces in the Towers could be non-combustible and not fire-rated if the Code were applicable.

Page 39 - C26 - [illegible]

The World Trade Center Towers would be classified as Occupancy Group "[illegible]" (Business) with a fire index of 2 hours.

Page 39 - C26 - [illegible] (B)

In Occupancy Group "[illegible]", tenants shall be separated from each other by construction meeting the fire resistance rating requirement for a "Fire Separation".

Page 53 - C26 - 504 (2)

The minimum requirement for a "Fire Separation" is that it be non-combustible.

If we apply these interpretations to the World Trade Center, there would be savings in construction costs with respect to the following items:

a. Ordinary non-combustible partitions could be used in lieu of the one-hour rated tenant demising walls.

b. Standard non-combustible ceiling system could be used in lieu of the one-hour rated acoustical tile ceiling.

c. The deletion of all insulating batt fire protection at all air handling lighting fixtures in ceilings as well as the deletion of damper equipped return air troffers. These are presently proposed for fixtures within 10'-0" of a demising partition.

We would appreciate your opinion as to whether it would be appropriate to make the changes to the design noted in paragraphs a, b and c. By copy of this letter, the office of Emery Roth & Sons is also requested to comment.

Sincerely,

Malcolm P. Levy

JAS/pe/ds
cc: Mr. Joseph Solomon (ER&S)

bcc: Messrs. R. Dengler, L. Ehmann, P. Goz, R. Linn, H. Roberts, I. Schwartzman

B U C K S L I P

TO Joseph Schwartzman
FROM Robert G. Dengler
DATE May 5, 1969
CC Messrs. Ehmann, Lewis

A review of the recently revised New York City Building Code effective December 6, 1968, with respect to tenant demising walls, raises a question as to World Trade Center fire rating requirements.

The following references to the code seem to indicate that the demising walls between tenant spaces in the towers need only be non-combustable and not fire rated:

Page 39 - C26 - 301.1

The World Trade Center towers are classified as Occupancy Group "E" (Business) with a fire index of 2 hours.

Page 39 - C26 - 301.4(B)

Because the towers are in Group Occupancy "E", tenants shall be separated from each other by construction meeting the fire resistance rating requirement for a "Fire Separation."

Page 53 - C16 - 504(B)

The minimum requirement for a "Fire Separation" is that it be non-combustible.

If these code interpretations prove valid, there would be considerable savings in initial construction costs. Similarly, if 1 hour demising walls are not required, the question arises as to the need for a 1 hour ceiling and baffles above the ceiling.

If you concur, an official ruling should be obtained from Tishman or ERS or both.

Robert G. Dengler
Operations Planning Specialist

/ek

WTCI-477-P
1/3

2/15/67

CHANGES TO BUILDING
TO CONFORM
TO NEW NEW YORK CITY BUILDING
CODE

1. Fire tower corridor eliminated.

2. Number of stairs reduced from 6 to 3 (Old plans had 5 stairs at 3'-8" and 1 stair at 4'8" for a total population of 390. New plans have 2 stairs at 3'-8" and 1 stair at 4'-8" allowing a population of 390).

3. The size of doors leading to the stairs are changed from 3'-8" to 3'-0".

4. All stairs exit through a lobby. Old plans had fire tower stair exiting through a fire enclosed corridor.

5. Shaft walls are changed from a 3-hour rating to a 2-hour rating.

6. Corridors are limited to a 100' dead end and with a 2-hour rating.

7. Additional [illegible] changed from 20 pounds per square foot to 6 pounds per square foot (based on partition weight of 50 pounds to 100 pounds per linear foot).

CKP/jw

WTC 1-477-P 1/4

# MEMORANDUM

PA 90-A
8-63

A-11170

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TO: Guy F. Tozzoli, Director, World Trade Department
FROM: John M. Kyle
DATE: June 2, 1966
SUBJECT: WORLD TRADE CENTER - BUILDING CODE
REFERENCE:
COPY TO: Messrs. Falvey, Levy, R. Sullivan

THE PORT OF NEW YORK AUTHORITY
Director World Trade Center
RECEIVED
JUN 3 1966

Apparently there has been a misunderstanding of my May 9 memo. I was not suggesting that we not follow the new code, but rather that your architect/engineers prepare a listing of the elements of design that do not conform to the old code requirements so that at such time as we receive a go-ahead on the World Trade Center, we can promptly secure the concurrence of the interested parties in the Building Department.

John M. Kyle
Chief Engineer

JMK:fm

WTCI -477-P

# MEMORANDUM

PA 90-A
5-63

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THE PORT OF NEW YORK AUTHORITY
RECEIVED
MAY 20
WORLD TRADE DEPARTMENT
PLANNING DIVISION

TO: John M. Kyle, Chief Engineer
FROM: Guy F. Tozzoli
DATE: May 19, 1966
SUBJECT: THE WORLD TRADE CENTER - BUILDING CODE

REFERENCE:

COPY TO: P. Falvey, M. Levy, R. Sullivan

In answer to your memorandum of May 9th, you will recall that the decision to follow the new Code was made with your concurrence after careful consideration of the problems involved. The decision to follow the new Code was, as you pointed out in your memorandum to Mr. Levy of June 22, 1965, based on the fact that: (1) the new Code had been thoroughly reviewed by interested technical groups and was modified to meet all major objections; (2) it would probably be adopted before we constructed our buildings and (3) the Commissioner favored the approach of using advanced techniques in the design of the Trade Center and that the Port Authority, according to him, was not subject to the provisions of the Building Code.

At the present time it would be extremely costly to redesign the Trade Center to conform to the old Building Code. A major portion of the architectural, mechanical and structural work already completed would have to be scrapped and the project would be greatly delayed. In view of these facts I see no choice but to proceed upon the course we have already set. Even assuming that the Code is not adopted for another year, it should still be in effect before we construct the superstructure of the Trade Center.

I do not feel it is appropriate at this time to approach the City with a list of variations between our present design and the existing Building Code. Such a list would, of course, be extensive since we have followed the revised Code which differs substantially from the existing one. I am sure that the new Code will eventually be adopted. Any attempt on our part to reconcile the two designs at this time would only cause unnecessary trouble and possible misunderstanding. I do feel, however, at the appropriate time we should explain to Mr. Ferro our exact reasoning in designing to the new Code. I am confident that there will be no problem.

Guy F. Tozzoli, Director
World Trade Department

WTCI-477-8 17

# MEMORANDUM

PA 90-A
5-63

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WORLD TRADE CENTER
PLANNING DIVISION

TO: Guy F. Tozzoli, Director, World Trade Dept.
FROM: John M. Kyle
DATE: May 9, 1966
SUBJECT: WORLD TRADE CENTER - NEW YORK BUILDING CODE - PROPOSED REVISION
REFERENCE:
COPY TO: Messrs. Falvey, Levy

At a recent meeting of the Directors of the New York Building Congress, Dean Schaffner of Brooklyn Polytechnic Institute, reported on the status of the redraft of the New York City Building Code. He indicated that he expected to have it in the hands of the Building Department this month. No one present at the meeting, including the City officials, was willing to predict if and when the code would be accepted, however, no one anticipates that this process will take less than a year.

Under the circumstances and with the changed personnel presently in charge of the City agencies, you may wish to review the decision to predicate all World Trade designs on the new code as presently developed. It would appear desirable to have your architect prepare a listing of the elements of the design which do not conform to old code requirements, but are acceptable under the new. With this list in hand, we could initiate discussions, at top level in the Building Department, to see if we can secure agreement to go along with our design.

As you know, Joe Ferro is now Deputy Director which should be most helpful.

John M. Kyle
Chief Engineer

JMK:fm

WTCI-477-P

# MEMORANDUM

PA 90-A
5-63

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TO: Malcolm P. Levy, Chief, Planning Div., W.T.C.
FROM: John M. Kyle
DATE: June 22, 1965
SUBJECT: WORLD TRADE CENTER - NEW BUILDING CODE

REFERENCE:

COPY TO: Miss Skehan; Messrs. Tozzoli, Winters

This will confirm my advice that, in view of the more liberal provisions of the proposed new New York City Building Code, I feel we should take advantage of its provisions.

This decision is based on the following:

1. The new code has received thorough review by interested technical groups and representatives of the City and has been modified to meet all major objections.

2. It is scheduled to be officially submitted to the City in September and should be approved well before we construct our buildings.

3. The Commissioner has stated that he favors the approach taken by the Port Authority in using advanced techniques in the design of the World Trade Center. He also stated that the Port Authority is not subject to the provisions of the Building Code.

File

John M. Kyle
Chief Engineer

WTCI-477-P 49

COPY

EMERY ROTH & SONS, ARCHITECT
650 THIRD AVENUE
NEW YORK 22, N. Y.

FILE

GALLIKE CO. 12/24/64

December 17, 1964

Mr. Aaron Schreier
Minoru Yamasaki & Associates
1025 East Maple Road
Birmingham, Michigan

RE: World Trade Center

Dear Aaron:

Egress requirements as determined by the New York City Building Code require a minimum aggregate width of 6 inches per 25 persons to be accommodated. The number of persons will be defined by the stair capacity serving the exit floor.

Revolving doors are permitted as a required means of egress provided (1) they are Type A construction as defined by Section C26-287.0 of the Building Code,
(2) they are 6 feet 6 inches minimum diameter.
When the leaves fold back such doors are then able to accommodate 75 persons through each side (unobstructed width per side equals 1 foot 9 inches) or a total of 150 persons. Use of such revolving doors is limited to 75 percent of the total required aggregate width.

For the tower building the minimum exit requirements to meet the code can be determined as follows: Fire tower stair leads directly out therefore may be ignored, two double stairs terminate at the plaza level; therefore, exit doorways to accommodate 240 persons must be provided at that level. Since revolving doors can accommodate 75 percent of that or 180 persons, two revolving doors will serve. One 3 foot hinged door (which has the capacity of 150 persons) will then serve to accommodate remaining population.

The single stair serving the [illegible] can, of course, be accommodated by just a single door.

These figures, of course, represent merely the basic minimum code requirements. We will actually provide a greater number of both types of doors on each level to meet the demands of the anticipated [illegible] at peak hours.

Cordially,